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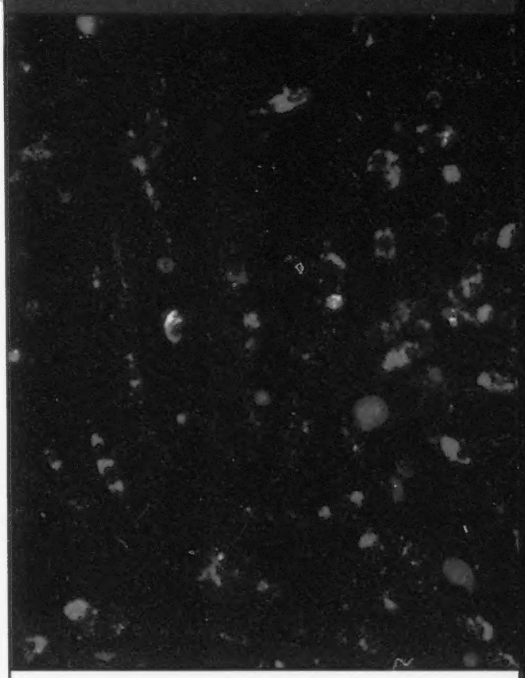

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Primary myoblasts labeled with red and green fluorescent membrane probes fuse to form double-labeled, multinucleated myotubes, a key step in the development of skeletal muscle. Leikina et al. reveal that phospholipid-binding annexin proteins and the GTPase dynamin regulate sequential steps of myoblast fusion. Image courtesy of Evgenia Leikina.
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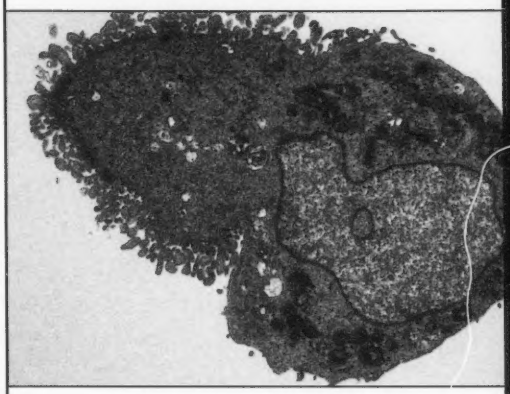

Transmission electron microscopy reveals the presence of numerous folds around the periphery of a mammalian cell. Kapustina et al. describe how the cyclic folding and unfolding of the plasma membrane–cortical layer can produce rapid changes in cell shape.
Image © 2013 Kapustina et al.
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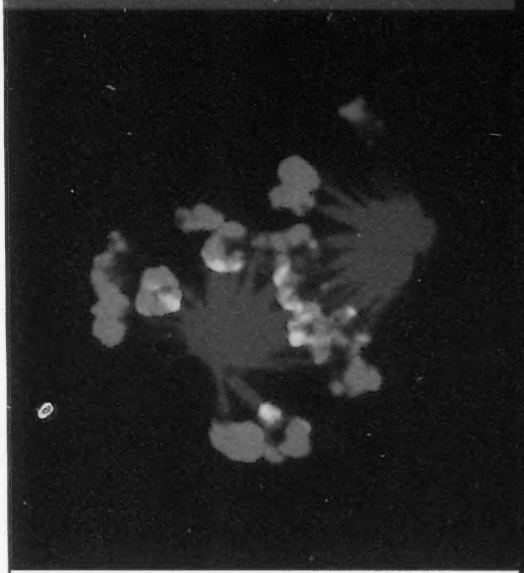

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Cane et al. reveal that overexpression of the chromokinesin motor NOD (red) stabilizes aberrant interactions between kinetochores and spindle microtubules (green), resulting in the incorrect attachment of sister chromatids to microtubules emanating from the same spindle pole.
Image courtesy of Tom Maresca.
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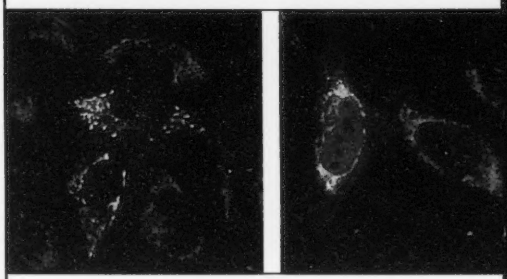

Lazarou et al. investigate how the E3 ubiquitin ligase Parkin is activated and recruited to mitochondria by the kinase PINK1. Wild-type Parkin (green, left) translocates to depolarized mitochondria (red) to induce organelle turnover. But a mutant version linked to Parkinson's disease (green, right) remains cytosolic. Image © 2013 Lazarou et al.
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Pettem et al. reveal that the neuronal protein MDGA1 suppresses the development of inhibitory synapses by disrupting the interaction between neuroligin-2 and neurexin-1, two synaptic cell adhesion molecules associated with autism and schizophrenia. Cultured hippocampal neurons overexpressing MDGA1 (green) show a reduced density of inhibitory inputs (labeled with vesicular GABA transporter, red) compared with neighboring, untransfected neurons. The dendritic marker MAP2 is labeled blue. Image © 2013 Pettem et al.

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Sakamoto et al. report that the tumor suppressor adenomatous polyposis coli (red) couples microtubules (blue) to vimentin intermediate filaments (green), helping to coordinate the two cytoskeletons during astrocyte migration. Image © 2013 Sakamoto et al.
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Ono et al. demonstrate that condensin II induces the resolution of sister chromatids during S phase. The condensin II subunit CAP-H2 (magenta) forms "sister axes" along regions of prematurely condensed, S-phase chromosomes (blue) that have already replicated but is not localized to regions undergoing active DNA synthesis (marked by the incorporation of EdU, green).
Image courtesy of Takao Ono.
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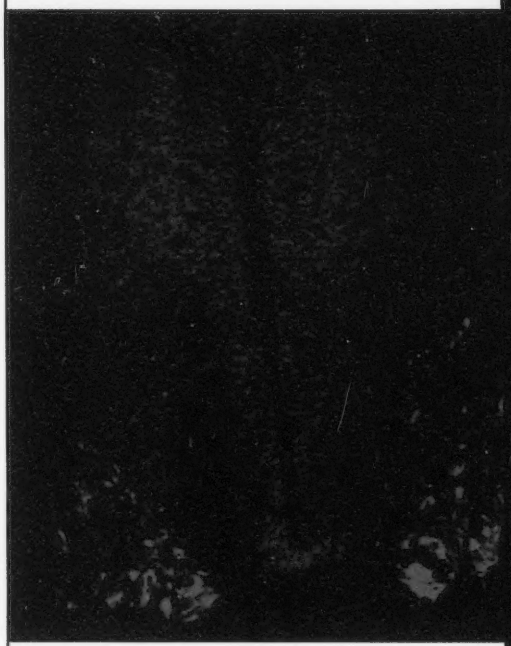

In 5-day-old chick embryos, the RNA binding protein Rbfox3 (red) is expressed in post-mitotic neurons in the marginal zone of the developing neural tube. Nuclei are stained blue. Kim et al. reveal that Rbfox3 promotes neuronal differentiation by regulating alternative splicing of the signaling adaptor Numb.
Image © 2013 Kim et al.
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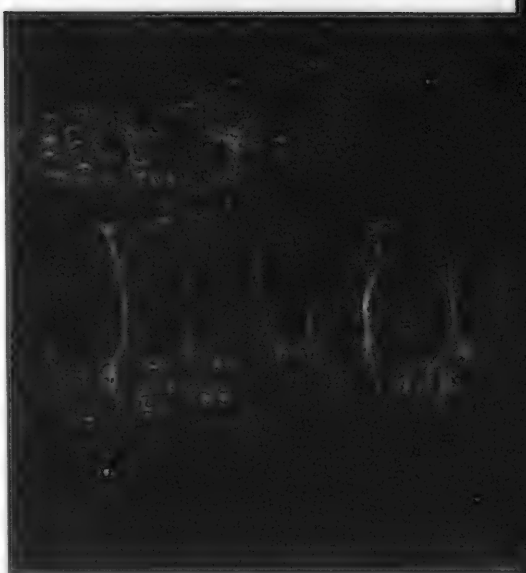

On the cover

A confocal image of a live zebrafish embryo shows the large vacuoles (labeled by LAMP1, red) that form in notochord cells (labeled with the membrane marker GFP-CaaX, green). Ellis et al. reveal that notochord vacuoles are lysosome-related organelles that promote embryonic axis elongation and spine morphogenesis.
Image © 2013 Ellis et al.
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651 Tail-anchored PEX26 targets peroxisomes via a PEX19-dependent and TRC40-independent class I pathway
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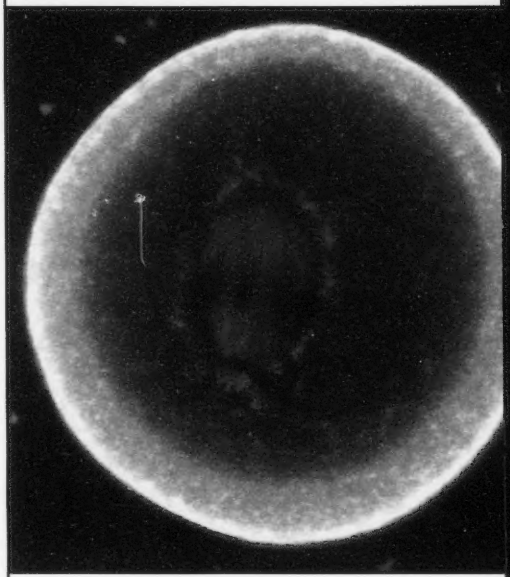

Yi et al. describe the biphasic, actin-driven movement of the meiotic spindle from the interior to the periphery of the oocyte. In the first phase, the formin Fmn2 (green) is recruited to endoplasmic reticulum structures that surround the meiotic spindle (red), where it nucleates actin filaments to initiate spindle displacement.
Image © 2013 Yi et al.
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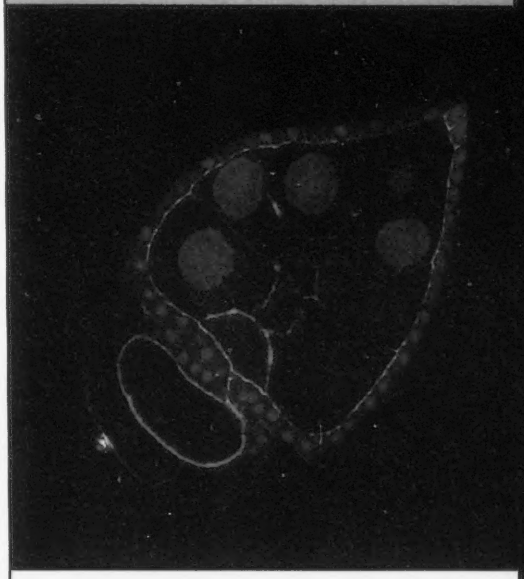

On the cover

Lewellyn et al. describe how the protein kinase Misshapen decreases integrin levels to promote the migration of follicle cells during *Drosophila* egg chamber morphogenesis. In an egg chamber stained for cortical actin (red), wild-type follicle cells (marked with GFP, green) break away from a group of immotile, Misshapen-null cells and bisect the oocyte by invading the inner germ cell cluster. Image © 2013 Lewellyn et al.
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773 MISP is a novel Plk1 substrate required for proper spindle orientation and mitotic progression
Mei Zhu, Florian Settele, Sachin Kotak, Luis Sanchez-Pulido, Lena Ehret, Chris P. Ponting, Pierre Gönczy, and Ingrid Hoffmann

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Anthony J. Morgan, Lianne C. Davis, Siegfried K.T.Y. Wagner, Alexander M. Lewis, John Parrington, Grant C. Churchill, and Antony Galione

807 The C8ORF38 homologue Sicily is a cytosolic chaperone for a mitochondrial complex I subunit
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821 Vps35 loss promotes hyperresorptive osteoclastogenesis and osteoporosis via sustained RANKL signaling
Wen-Fang Xia, Fu-Lei Tang, Lei Xiong, Shan Xiong, Ji-Ung Jung, Dae-Hoon Lee, Xing-Sheng Li, Xu Feng, Lin Mei, and Wen-Cheng Xiong

Tools

839 A novel single-cell screening platform reveals proteome plasticity during yeast stress responses
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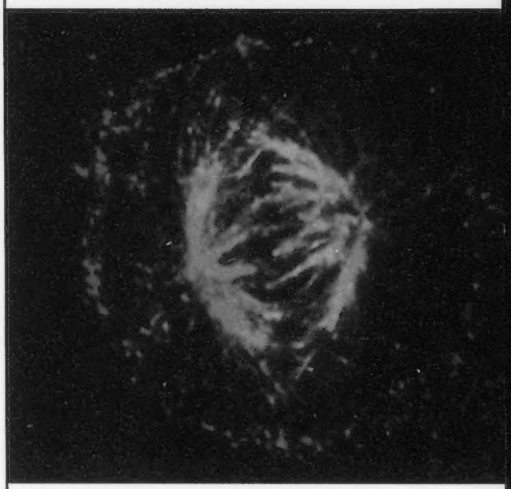
Corrections

851 Akt regulates L-type Ca^{2+} channel activity by modulating $Ca_v\alpha1$ protein stability
Daniele Catalucci, Deng-Hong Zhang, Jaime DeSantiago, Franck Aimond, Guillaume Barbara, Jean Chemin, Désiré Bonci, Eckard Picht, Francesca Rusconi, Nancy D. Dalton, Kirk L. Peterson, Sylvain Richard, Donald M. Bers, Joan Heller Brown, and Gianluigi Condorelli

853 *Drosophila* PATJ supports adherens junction stability by modulating Myosin light chain activity
Arnab Sen, Zsanett Nagy-Zsvér-Vadas, and Michael P. Krahn



Zhu et al. identify MISP (red), an actin-associated protein that stabilizes the attachment of astral microtubules (green) to the cell cortex, thereby promoting mitotic spindle positioning.
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